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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,712	09/30/2004	Detlef P. Muller-Schulte	RO0909US(#90568)	2617

7590 10/16/2006

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Cleveland, OH 44114-2294

EXAMINER

JUNG, UNSU

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/509,712

Applicant(s)

MULLER-SCHULTE, DETLEF P.

Examiner

Unsu Jung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19,21-23 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-19,21-23 and 25-28 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's preliminary amendments to cancel claims 20 and 24, add new claims 26 and 27, and amend claims 1-19, 21-23, and 25 in the reply filed on September 30, 2004 have been acknowledged and entered.
2. Applicant's preliminary amendments to add new claim 28 and amend claims 4 and 18 in the reply filed on April 11, 2005 have been acknowledged and entered.
3. Claims 1-19, 21-23, and 25-28 are pending.

### *Election/Restrictions*

4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

#### List 1: Luminescent Substance

- a. Semiconductor nanocrystals
- b. Microcrystalline compound
- c. Metal-chelate compound
- d. Semiconductor crystals
- e. Pyrrole dye

- f. Luminescent protein

List 2: Excitation and Emission Frequencies of Luminescent Substance

- a. Excitation frequency is higher than emission frequency
- b. Excitation frequency is lower than emission frequency

List 3: Biomolecules

- a. Proteins/peptides
- b. Cell receptors
- c. Nucleic acids/nucleic acid fragments
- d. Polysaccharides/oligosaccharides
- e. Antibodies/antibody fragments
- f. Streptavidin
- g. Avidin
- h. Biotin
- i. Enzymes

Applicant is required, in reply to this action, to elect a single species from each of the three lists above to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is

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allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

List 1: Luminescent Substance

- g. Semiconductor nanocrystals (claims 8 and 9)
- h. Microcrystalline compound (claim 11)
- i. Metal-chelate compound (claim 12)
- j. Semiconductor crystals (claim 8)
- k. Pyrrole dye (claim 13)
- l. Luminescent protein (claim 14)

List 2: Excitation and Emission Frequencies of Luminescent Substance

- c. Excitation frequency is higher than emission frequency (claim 7)
- d. Excitation frequency is lower than emission frequency (claim 10)

List 2: Biomolecules

- j. Proteins/peptides (claims 18, 25, and 28)

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- k. Cell receptors (claims 18, 25, and 28)
- l. Nucleic acids/nucleic acid fragments (claims 18, 25, and 28)
- m. Polysaccharides/oligosaccharides (claims 18, 25, and 28)
- n. Antibodies/antibody fragments (claims 18, 25, and 28)
- o. Streptavidin (claims 18, 25, and 28)
- p. Avidin (claims 18, 25, and 28)
- q. Biotin (claims 18, 25, and 28)
- r. Enzymes (claims 18, 25, and 28)

The following claim(s) are generic: claims 1-6, 15-17, 21-23, 26, and 27.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Each species of luminescent substance are structurally and materially different from one another. Similarly, each species of biomolecules are structurally and functionally different from one another.

5. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of

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record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Unsu Jung whose telephone number is 571-272-8506. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Unsu Jung, Ph.D.

  
LONG V. LE 01/21/06  
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